

WHAT IS CLAIMED IS:

1. A touch panel comprising:
  - 5 a first layer and a second layer that are arranged to face each other, with a predetermined gap being formed between the first layer and the second layer;
  - 10 a first resistance film that is formed on a surface of the first layer;
  - 15 a second resistance film that is formed on a surface of the second layer; and a power supply unit that is provided on the first resistance film, wherein the first resistance film and the second resistance film that are originally used for sensing a touch form an antenna.
2. The touch panel as claimed in claim 1, wherein the surface of the first layer faces the second layer, and the surface of the second layer faces the first layer.
- 25 3. The touch panel as claimed in claim 1, wherein the first and second resistance films.
- 30 4. The touch panel as claimed in claim 1, wherein the surface of the first layer is on the opposite side to another surface of the first layer that faces the second layer; and the surface of the second layer faces the first layer.
- 35 5. The touch panel as claimed in claim 1, wherein the second resistance film is grounded via a capacitor.
6. The touch panel as claimed in claim 1,

wherein the power supply unit is a stub that is integrally formed with the first resistance film by patterning.

5        7. The touch panel as claimed in claim 1, wherein at least one of the first resistance film and the second resistance film is a transparent electrode film.

10        8. The touch panel as claimed in claim 1, wherein at least one of the first resistance film and the second resistance film is patterned so as to resonate at a predetermined frequency.

15        9. The touch panel as claimed in claim 1, wherein at least one of the first resistance film and the second resistance film is a printed resistance film including a carbon or organic conductive film that is patterned by screen printing.

20        10. The touch panel as claimed in claim 1, further comprising a third resistance film that is formed on another surface of the first layer, the surface being on the opposite side to the surface on which the first resistance film is formed,  
25        wherein the second resistance film and the third resistance film have an identical potential with low impedance with respect to a radiofrequency.

30        11. The touch panel as claimed in claim 1, wherein the first resistance film and the second resistance film form a plurality of antennas that resonate at a predetermined frequency.

35        12. The touch panel as claimed in claim 1, wherein the first resistance film and the second resistance film form a plurality of antennas that

resonate at predetermined different frequencies.

13. The touch panel as claimed in claim 11, wherein the plurality of antennas are arranged in a 5 predetermined manner to form one of a phased array antenna and an adaptive array antenna.

14. The touch panel as claimed in claim 11, wherein the portions that form the plurality of 10 antennas in the first resistance film and the second resistance film have a microstrip line structure.

15. The touch panel as claimed in claim 11, wherein the plurality of antennas form strip lines that 15 are arranged at intervals of a resonant wavelength.

16. The touch panel as claimed in claim 11, further comprising a third resistance film that is formed on another surface of the first layer, the 20 surface being on the opposite side to the surface on which the first resistance film is formed, wherein:

the plurality of antennas form strip lines that are arranged at intervals of a resonant wavelength; and 25 the third resistance film has apertures formed in the regions corresponding to the antennas.

17. A touch panel comprising:  
a first layer and a second layer that are 30 arranged to face each other, with a predetermined gap being formed between the first layer and the second layer; and  
a first resistance film and a second resistance film that are formed on two parallel surfaces of the 35 first layer and the second layer, and are patterned so as to resonate at a predetermined frequency,  
the first resistance film and a second resistance

film that are originally used to sense a touch form an antenna.

18. A touch panel comprising:  
5        a first layer and a second layer that are arranged to face each other, with a predetermined gap being formed between the first layer and the second layer; and  
a Yagi-Uda antenna that is formed on the first  
10      layer.

19. An input device comprising:  
15        a touch panel;  
          a touch panel controller that controls the touch panel; and  
          a transmit/receive unit that transmits and receives data through an antenna,  
          the touch panel including:  
          a first layer and a second layer that are arranged to face each other, with a predetermined gap being formed between the first layer and the second layer;  
20        a first resistance film that is formed on a surface of the first layer;  
25        a second resistance film that is formed on a surface of the second layer; and  
          a power supply unit that is provided on the first resistance film,  
          the first resistance film and the second  
30        resistance film that are originally used to sense a touch form the antenna.

20. An input device comprising:  
35        a touch panel;  
          a touch panel controller that controls the touch panel; and  
          a transmit/receive unit that transmits and

receives data through an antenna,  
the touch panel including:  
a first layer and a second layer that are  
arranged to face each other, with a predetermined gap  
5 being formed between the first layer and the second  
layer;  
a first resistance film that is formed on a  
surface of the first layer;  
a second resistance film that is formed on a  
10 surface of the second layer; and  
a power supply unit that is provided on the first  
resistance film,  
the first resistance film and the second  
resistance film forming a plurality of antennas that  
15 resonate at predetermined different frequencies, and  
the transmit/receive unit performing ultra  
broadband wireless communication through the plurality  
of antennas.

20 21. An electronic apparatus comprising  
an input device that includes:  
a touch panel;  
a touch panel controller that controls the touch  
panel; and  
25 a transmit/receive unit that transmits and  
receives data through an antenna,  
the touch panel including:  
a first layer and a second layer that are  
arranged to face each other, with a predetermined gap  
30 being formed between the first layer and the second  
layer;  
a first resistance film that is formed on a  
surface of the first layer;  
a second resistance film that is formed on a  
35 surface of the second layer; and  
a power supply unit that is provided on the first  
resistance film,

the first resistance film and the second resistance film that are originally used to sense a touch form the antenna.